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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,101	10/24/2001	Yaw S. Obeng	SILO-0005	8967

27964 7590 01/21/2004

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EXAMINER

OJINI, EZIAMARA ANTHONY

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 01/21/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/000,101

Applicant(s)

OBENG ET AL.

Examiner

Anthony Ojini

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Applicant's cancellation of claims 7 and 9-27 in Paper No. 11 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6,8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anjur et al. (6,117,000) in view of Molnar (6,390,890 B1)).

With respect to claims 1-4 and 6, Anjur et al. disclose a polishing pad comprising a polishing body having polyurethane thermoplastic resin particles having Shore A hardness ranging between 55 to about 98 (see col. 7, lines 26-32). Anjur et al. also disclose in column 2, lines 6-12, a closed cells polymer foams.

Anjur et al. fail to disclose a cross-linked polymer having a hardness ranging from about 34 shore A to about 60 Shore A.

Molnar discloses a polishing pad comprising a cross-linked polyolefin polymer (26) having a shore A hardness (see col. 9, lines 11-23 & col. 15, lines 3- 51).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the polishing pad of Anjur et al. to include a cross linked polymer in view of Molnar so as to enhanced thermal resistance.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide polishing pad of Anjur et al. with a cross-linked polymer having a hardness ranging from about 34 shore A to about 60 Shore A, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claim 5, Anjur et al. fail to show wherein a polishing body includes a base pad and a cross-linked polymer forms a polishing surface located over the base pad.

Molnar discloses a polishing material having a base pad (37) and elastomeric polymer (36) forms a polishing surface located over the base pad (see fig. 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide polishing pad of Anjur et al. with a polishing body that includes a base pad and elastomeric polymer polishing surface that is located over the base pad in view of Molnar so as to enhanced thermal resistance.

With respect to claim 8, Anjur et al. teach in column 2, line 56, the polishing pad having an increased removal rates but fails to disclose wherein cross-linked polymer has a selectivity of Cu to Ta removal rates of greater than about 27:1. However, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Response to Amendment

Applicant's arguments filed 11/12/03 have been fully considered but they are not persuasive.

Applicant argues that "the asserted combination of " U.S. Patent No. 6,117,00 to Anjur et al. and U.S. Patent No. 4,446,254 to Nakae et al. "fail to teach or suggest all of the elements of the invention recited in independent Claim 1". However, Anjur et al. disclose the concept of a polishing pad comprising a polishing body having polyurethane thermoplastic resin particles having Shore A hardness ranging between 55 to about 98 but fail to disclose a cross-linked polymer having a hardness ranging from about 34 shore A to about 60 Shore A. Molnar discloses a polishing pad comprising a cross-linked polyolefin polymer (26) having a shore A hardness. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the polishing pad of Anjur et al. to include a cross linked polymer in view of Molnar so as to enhanced thermal resistance. It would have further been obvious to one having ordinary skill in the art at the time the invention was made to provide polishing pad of Anjur et al. with a cross-linked polymer having a hardness ranging from about 34 shore A to about 60 Shore A, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Applicant argues, that "no teaching or suggestion in Nakae of cross-linked polymers of having any utility as polishing pad". However, Molnar discloses the concept of cross-linked polymers of having any utility as polishing pad.

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Applicant argues that “no indication anywhere in Nakae of a cross-linked polymer having a hardness ranging from about 34 Shore A to about 60 Shore A being disclosed or suggested”. However, Molnar discloses a polishing pad comprising a cross-linked polyolefin polymer having a shore A hardness. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide polishing pad of Molnar with a cross-linked polymer having a hardness ranging from about 34 shore A to about 60 Shore A, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Applicant argues that “the asserted combination of Anjur and Nakae fails to establish a prima facie case of obviousness because the asserted combination is improper”.

However, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Anjur et al. disclose the concept of a polishing pad comprising a polishing body having polyurethane thermoplastic resin particles having Shore A hardness ranging between 55 to about 98; and a closed cells polymer foams but fail to disclose a cross-linked polymer having a hardness ranging from about 34 shore A to about 60 Shore A.

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Molnar discloses a polishing pad comprising a cross-linked polyolefin polymer (26) having a shore A hardness. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the polishing pad of Anjur et al. to include a cross linked polymer in view of Molnar so as to enhanced thermal resistance. It would have further been obvious to one having ordinary skill in the art at the time the invention was made to provide polishing pad of Anjur et al. with a cross-linked polymer having a hardness ranging from about 34 shore A to about 60 Shore A, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dau et al., Berger et al., Sevilla et al. (6,062,968), Sevilla et al. (6,126,532); Koike et al., Robert et al. disclose a polishing pad having polymer layer surface respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Ojini whose telephone number is 703 305 3768. The examiner can normally be reached on 7.30 to 5.00 Tuesday-Friday with every other Monday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 703 308 2687. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308 3590 for regular communications and 703 746 3277 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 1148.

A handwritten signature in black ink, appearing to read "A. Opini". The signature is written in a cursive, flowing style.

AO
January 16, 2004